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Identification of Ceriodaphnia dana, 1853 (Crustacea: Cladocera) taxa from European Russia based on ephippial morphology

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Abstract

Copyright © 2018 Magnolia Press. Over the last decades significant progress was achieved in the investigations of water fleas (Crustacea: Cladocera). Their morphology, taxonomy and biogeography can be considered as well-studied, but still there are genera almost ignored by taxonomists. The genus Ceriodaphnia Dana, 1853 (Cladocera: Daphniidae) belongs to such problematic groups. From previous publications, it is obvious that different taxa from the genus have a very different morphology of their ephippia. Here, we study ephippium morphology in six common taxa from central-northern European Russia (Ceriodaphnia megops Sars, 1862; C. laticaudata P.E. Müller, 1867; C. rotunda (Straus, 1820) sensu Sars, 1862; C. quadrangula (O.F. Müller, 1785); C. pulchella Sars, 1862; C. reticulata (Jurine, 1820)) using light and scanning electron microscopy. A key to their identification based on ephippium morphology is proposed. This could be the starting point for revisions based on morphological characters with special emphasis on ephippia. Also, we propose that Ceriodaphnia taxa at least from the Holocene subfossil samples could be identified to the species group level according to structure of their ephippia. This approach to identification of Ceriodaphnia remains in sediments could improve palaeoecological reconstructions. However a global revision of the genus is still needed.

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Keywords

Cladocera, Ephippium, European Russia, Morphology, Taxonomy

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